



ZF POWERFLUID PLUS

Version number: 1
Issued: 2026-08-17

SECTION 1: Identification

Product identifier

Trade name

ZF POWERFLUID PLUS

Article No.

0671.090.535; 0671.090.536; 0671.090.537

Recommended use of the chemical and restrictions on use

Product type

Mixture

Use

Lubricant

Not suitable for use in

No uses advised against identified.

Supplier's details

SDS created by

Global Division B Product Compliance Mgmt. System (BWC)

Supplier

ZF Services, LLC

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SAFETY DATA SHEET
According to Regulation (US HCS) 29 CFR
1910.1200

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Emergency phone number

1-800-222-1222 (general poison US emergency number) (+49) 89 19 240

Available outside office hours

Yes

SECTION 2: Hazard identification

Classification of the substance or mixture and any national or regional information

Classification according to Regulation (US HCS) 29 CFR 1910.1200

Classification

Skin sensitisation, hazard category 1

Hazard statements

H317

Description

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200): The product has been classified as hazardous according to the legislation in force.

Label elements, including precautionary statements

Labeling according to Regulation (US HCS) 29 CFR 1910.1200

Hazard pictograms**Signal word**

Warning

Hazard statements

H317 May cause an allergic skin reaction.



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Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352 IF ON SKIN: Wash with plenty of water/soap.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards which do not result in classification

By handling of mineral oil products and chemical products no particular hazard is known when normal precautions (item 7) and personal protective equipment (item 8) are kept. The product may not be released into the environment without control.

Unknown toxicity: Due to information available product does not contain any ingredients of unknown toxicity.



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SECTION 3: Composition/information on ingredients

Mixture

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Specific concentration limits ATE	Note
Base oil, low viscous	64742-54-7 265-157-1 01-2119484627-25 649-467-00-8	1 - <10%	Asp. Tox. 1	H304 - -		ATE (oral): >5000 mg/kg; ATE (dermal): >5000 mg/kg; ATE (inhalation): 5 mg/kg
ZnDTP	4259-15-8 224-235-5 01-2119493635-27 -	1 - <2.5%	Eye Dam. 1, Aquatic Chronic 2	H318, H411 - -		SCL = Eye Dam. 1; : 50 % < C ≤ 100 %; M(Chronic) = 0
olefin derivative	- 701-392-2 - -	0.1 - <1%	Skin Sens. 1B	H317 - -		-
Phosphite	101-02-0 202-908-4 01-2119511213-58 015-105-00-7	0.1 - <0.25%	Acute Tox. 4 - oral, Skin Irrit. 2, Skin Sens. 1, Eye Irrit. 2, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1	H302, H315, H317, H319, H373, H400, H410 - -		Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 %;

Product based on

Mixture containing severely refined base oils and additives.

Note: Please note that the mineral oils and petroleum distillates used in our products are severely refined and have a DMSO extract < 3% as measured by method IP 346 and are not classified as carcinogenic according to Note L of Annex VI of Regulation EC 1272/2008."



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SECTION 4: First-aid measures

Description of necessary first-aid measures

Instantly remove any clothing soiled by the product.

Inhalation

Supply fresh air; consult doctor in case of symptoms.

Skin contact

Wash with soap and water.

Eye contact

Promptly wash eyes with plenty of water while lifting the eye lids.

Ingestion

Rinse mouth thoroughly.

Most important symptoms/effects, acute and delayed

May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed, if necessary

Get medical attention if symptoms occur.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media

CO₂, fire extinguishing powder or fog like water spraying. Extinguish larger fires with alcohol resistant foam or spray water with suitable surfactant added.

Unsuitable extinguishing media

Water with a full water jet.

Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products).

During fire, gases hazardous to health may be formed.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire-fighting procedures: Move container from fire area if it can be done without risk. Dispose of fire debris and contaminated fire fighting water in accordance with official regulations. Collect contaminated fire fighting water separately. It must not enter drains.



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SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

In case of spills, beware of slippery floors and surfaces.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent from spreading (e.g. by binding or oil barriers). Environmental manager must be informed of all major spillages. Do not allow to enter drainage system, surface or ground water.

Methods and materials for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acidbinders, universal binders, sawdust). Dispose of the material collected according to regulations. Stop the flow of material, if this is without risk.

Reference to other sections

See Section 8 of the SDS for Personal Protective Equipment. See Section 7 for information on safe handling See Section 13 for information on disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Preventive handling precautions

Prevent formation of aerosols. Do not eat, drink or smoke when working with the product. Take usual precautions when handling mineral oil products or chemical products. Observe good industrial hygiene practices. Provide adequate ventilation.

Conditions for safe storage, including any incompatibilities

Do not heat up to temperatures close to the flash point.

Specific end use(s)

Not applicable.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure limits

See below OEL table.



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National occupational exposure limits

Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m³ / F/cm³	Source	Remark	Year
Base oil paraffinic - Inhalable fraction	- -	- / 5 / -	US. ACGIH Threshold Limit Values, as amended (03 2014)	TWA	2014
Base oil paraffinic	- -	500 / 2000 / -	US. OSHA Table Z-1 Lim- its for Air Con- taminants (29 CFR 1910.1000), as amended (02 2006)	PEL	2006
Base oil paraffinic - Mist	- -	- / 5 / -	US. OSHA Table Z-1 Lim- its for Air Con- taminants (29 CFR 1910.1000), as amended (02 2006)	PEL	2006
Base oil paraffinic	- -	- / 400 / 1600	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)	TWA	1989
Base oil paraffinic - Mist	- -	- / 5 / -	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)	TWA	1989



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Appropriate engineering controls

Appropriate engineering controls

Provide adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

General information: Wash hands before breaks and after work. Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. The usual precautionary measures should be adhered to in handling the chemicals or the mineral oil products.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Eye / face protection

Avoid contact with skin and eyes. Goggles/face shield are recommended. If risk of splashing, wear safety goggles or face shield.

Hand protection

Material: Nitrile butyl rubber (NBR).

Min. Breakthrough time: ≥ 480 min

Recommended thickness of the material: ≥ 0.38 mm

Avoid long-term and repeated skin contact. Suitable gloves can be recommended by the glove supplier. Use skin protection cream for preventive skin protection. Protective gloves, where permitted in acc. to safety directions. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Other skin protection

Do not carry cleaning cloths impregnated with the product in trouser pockets. Wear suitable protective clothing.

Respiratory protection

Ensure good ventilation/exhaustion at the workplace. Avoid breathing vapour/ aerosol.

Thermal hazards

No data available.



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SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state

Liquid

Colour

Yellow

Odour

Characteristic

Odour threshold

Not applicable for mixtures

Melting point / freezing point

Not applicable for mixtures

Boiling point or initial boiling point and boiling range

Value not relevant for classification

Flammability

Value not relevant for classification [solid, gas]

Lower and upper explosion limit

Not applicable for mixtures

Flash point

246 °C / 474.8 °F

Auto-ignition temperature

Value not relevant for classification

Decomposition temperature

Value not relevant for classification

pH

substance/mixture is non-soluble (in water)

Kinematic viscosity

65 mm²/s (40 °C)

Solubility

No data available



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Water solubility

Insoluble in water

Partition coefficient n-octanol/water

Not applicable for mixtures

Vapour pressure

Not applicable for mixtures

Density and/or relative density

0.87 g/ml (15 °C)

Relative vapour density

Not applicable for mixtures

Evaporation Rate

Not applicable for mixtures

Explosive properties

Value not relevant for classification

Oxidising properties

Value not relevant for classification

Particle characteristics

No data available

Other information

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal use conditions.

Chemical stability

Stable under normal use conditions.

Possibility of hazardous reactions

Stable under normal use conditions.

Conditions to avoid

Stable under normal use conditions.



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Incompatible materials

Strong oxidizing substances. Strong acids. Strong bases.

Hazardous decomposition products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

SECTION 11. Toxicological information

Information on the likely routes of exposure

Acute toxicity

Based on available data, the classification criteria are not met.

Product / Sub- stance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals	Method / Guideline
Base oil, low viscous -	LD50	> 5000 mg/kg	oral	Rat	OECD 423
ZnDTP -	LD50	4358 mg/kg	oral	Rat	-
Phosphite -	LD50	1,590 mg/kg	oral	Rat	-
Base oil, low viscous -	LD50	> 5000 mg/kg	dermal	Rabbit	OECD 402
ZnDTP -	LD50	> 5000 mg/kg	dermal	Rabbit	OECD 402

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Product / Substance name CAS / EC no.	Result	Species
ZnDTP -	Slightly irritating.	Rabbit



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Respiratory or skin sensitisation

Skin sensitizer: Based on available data, the classification criteria are met.

Respiratory sensitizer: Based on available data, the classification criteria are not met.

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
ZnDTP -	Not a skin sensitizer	Guinea Pig	OECD 406-1
olefin derivative -	May cause an allergic skin reaction	-	-

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

IARC: IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: No carcinogenic components identified

NTP: US. National Toxicology Program (NTP) Report on Carcinogens: No carcinogenic components identified

OSHASP: US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): No carcinogenic components identified

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on other hazards

No data available



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SECTION 12: Ecological information

Toxicity

Acute toxicity

Based on available data, the classification criteria are not met.

Acute fish toxicity

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
Base oil, low viscous -	LC50	> 101 mg/l	96 hr	Fish	OECD 203
ZnDTP -	LC50	4.4 mg/l	96 hr	Fish	OECD 203
olefin derivative -	LC50	> 101 mg/l	96 hr	Fish	-

Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Base oil, low viscous -	EC50	> 101 mg/l	72 hr	Algae
ZnDTP -	EC50	410 mg/l	72 hr	Algae
olefin derivative -	EC50	> 101 mg/l	72 hr	Algae

Acute crustacean toxicity

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
Base oil, low viscous -	EC50	> 10,000 mg/l	48 hr	Water Flea	OECD 202
ZnDTP -	EC50	75 mg/l	48 hr	Water Flea	OECD 202



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Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
olefin derivative -	EC50	> 101 mg/l	48 hr	Water Flea	-

Chronical toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
ZnDTP -	NOEC	3.2 mg/l	4 d	Fish
ZnDTP -	NOEC	0.4 mg/l	21 d	Water Flea
olefin derivative -	NOEC	10 mg/l	21 d	Water Flea
ZnDTP -	NOEC	220 mg/l	72 hr	Algae

Persistence and degradability

Not applicable for mixtures

Product / Substance name CAS / EC no.	Duration	Result	Degradation	Method / Guideline
ZnDTP -	28 d	Not readily degradable.	5 %	OECD 301B
olefin derivative -	28 d	Not readily degradable	17.3 %	-

Bioaccumulative potential

Not applicable for mixtures

Mobility in soil

Mobility

Not applicable for mixtures



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Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

The product does not contain any substances fulfilling the PBT/vPvB criteria.

Endocrine disrupting properties

No data available

Other adverse effects

Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

Disposal methods

Disposal considerations

Dispose in accordance with all applicable regulations.

Discharge, treatment, or disposal may be subject to national, state, or local laws.

SECTION 14: Transport information

UN number

Not regulated.

UN proper shipping name

ADR / RID / ADN proper shipping name

Not regulated.

IMDG proper shipping name

Not regulated.

IATA proper shipping name

Not regulated.

Transport hazard class(es)

Label

Not regulated.

ADR / RID Class

Not regulated.



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IMDG Class

Not regulated.

IATA Class

Not regulated.

ADN Class

Not regulated.

Packing group

Not regulated.

Environmental hazards

No

IMDG Marine Pollutant

No

Special precautions for user

Not Applicable.

Transport in bulk according to IMO instruments

Not Applicable.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

EU regulations

Not Applicable.



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National regulations

SARA 302/304: Composition/information on ingredients: No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312: Classification: Not Applicable.

TSCA 12(b) - Chemical export notification: Not Applicable.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed.

Clean Air Act Section 602 Class I Substances : Not listed.

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Other regulations, limitations and legal regulations

Inventory Status:

TSCA: On or in compliance with the inventory

DSL: On or in compliance with the inventory

NDSL: Not in compliance with the inventory.

Chemical safety assessment

No data available



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SECTION 16: Other information

Phrase meaning

Skin Sens. 1 - Skin sensitisation, hazard category 1
Asp. Tox. 1 - Aspiration hazard, hazard category 1
Eye Dam. 1 - Serious eye damage, hazard category 1
Aquatic Chronic 2 - Hazardous to the aquatic environment — Chronic hazard category 2
Skin Sens. 1B - Skin sensitisation, hazard category 1, sub-category 1B
Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4
Skin Irrit. 2 - Skin irritation, hazard category 2
Eye Irrit. 2 - Eye irritation, hazard category 2
STOT RE 2 - Specific Target Organ Toxicity — Repeated exposure, hazard category 2
Aquatic Acute 1 - Hazardous to the aquatic environment — Acute hazard category 1
Aquatic Chronic 1 - Hazardous to the aquatic environment — Chronic hazard category 1
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Other

Additional information

Disclaimer:

The data contained in this safety data sheet are based on our current knowledge and experience and are given to the best of our knowledge and belief. It characterizes the product only with regard to safety requirements for handling, transport and disposal. The data do not describe the product's properties (tech. product specification). Neither should any agreed property nor the suitability of the product for any specific technical application be deduced from the data contained in this safety data sheet. Modifications on this document are not allowed. The data are not transferable to other products. In the case of mixing the product with other products or in the case of processing, the data in this safety data sheet are not necessarily valid for the new-made material. It is the responsibility of the recipient of the product to observe federal, state and local law. Please contact us to obtain up-to-date safety data sheets. This document was issued electronically and has no signature.